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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/955,427	09/19/2001	Shigeo Toji	1259-0217P-SP	9463
2292	7590	12/16/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			YODER III, CHRISS S	
			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/955,427

Applicant(s)

TOJI ET AL.

Examiner

Chriss S. Yoder, III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,4 and 6-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,4 and 6-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 15, 2005 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. See MPEP § 2173.05(c). Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely

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exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481 (Bd. App. 1949). In the present instance, claim 1 recites the broad recitation "wherein during the operation process the original pixel to be process and the adjacent (N-1) original pixels thereof are each multiplied by a predetermined coefficient and summed up, wherein said "N" is a natural number more than "3" ", and the claim also recites "the brightness level of a target pixel is represented by d(i) and the brightness levels of the adjacent four pixels are respectively represented by d(i+1), d(i+2), d(i-1), d(i-2)" which is the narrower statement of the range/limitation.

Response to Arguments

Applicant's arguments with respect to claims 1, 3-4, and 6-14 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 3-4, and 6-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dotsubo et al (US Patent # 6,556,243) in view of Miyake (US Patent # 6,157,749).

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2. In regard to claim 1, note Dotsubo discloses the an information-image displaying method for displaying an information image on a display in which a taken subject image is displayed on said liquid crystal display after a thinning process has been executed in accordance with a screen pixel number of said liquid crystal display (column 4, lines 55-65; and figures 5-6), and includes the steps of producing an original image of said information image in accordance with a primary pixel number of said subject image (column 11, lines 56-66 and figure 20: S301-S311, the image resolution of the "photographed image" and the "title image" are matched), executing a low-pass-filter process for said original image to obtain said information image, said low-pass-filter process performing an operation process relative to data of original pixels of said original image to calculate data of each pixel of said information image (figure 8: S31-S33; and column 8, lines 55-60), storing said information image in storage means (figure 8: S47), reading said information image from said storage means (figure 14: S129) and displaying said information image on said screen of said liquid crystal display after said thinning process (column 6, lines 35-40; column 14, lines 35-47, the image can be displayed after thinning; and figure 14: S137 and figure 20).

Therefore, it can be seen that Dotsubo fails to disclose that during the operation process, the original pixel to be processed and the adjacent (N-1) original pixels thereof are each multiplied by a predetermined coefficient and summed up, wherein said "N" is a natural number more than "3", wherein the brightness level of each pixel of said information image is calculated in said low-pass-filter process, and the brightness level after the low pass filter process is obtained using $D = k1 \cdot d(i) + k2 \cdot d(i+1) + k3 \cdot d(i+2) +$

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$k_4 \cdot d(i-1) + k_5 \cdot d(i-2)$, wherein k_1 to k_5 are "0.2" and the brightness level of a target pixel is represented by $d(i)$ and the brightness levels of the adjacent four pixels are respectively represented by $d(i+1)$, $d(i+2)$, $d(i-1)$, $d(i-2)$.

In analogous art Miyake discloses the use of an image processing method of filtering an image in order to reduce high frequency components such as corners and thin lines. Miyake discloses that during a low pass filter process the original pixel to be processed and the adjacent (N-1) original pixels thereof are each multiplied by a predetermined coefficient and summed up (column 6, lines 30-44), wherein said "N" is a natural number more than "3" (column 6, lines 30-44; in this example it is using $N=9$), wherein the brightness level of each pixel of said information image is calculated in said low-pass-filter process (column 6, lines 30-44), and the brightness level after the low pass filter process is obtained using $D = k_1 \cdot d(i) + k_2 \cdot d(i+1) + k_3 \cdot d(i+2) + k_4 \cdot d(i-1) + k_5 \cdot d(i-2)$, wherein k_1 to k_5 are "0.2" and the brightness level of a target pixel is represented by $d(i)$ and the brightness levels of the adjacent four pixels are respectively represented by $d(i+1)$, $d(i+2)$, $d(i-1)$, $d(i-2)$ (column 6, lines 1-11 and column 6, lines 30-44; the use of a window for the low pass filter is arranged in any shape, which is interpreted as any size, including five pixels consisting of one target and four adjacent, and as for the limitation of coefficients k_1 - k_5 being equal to "0.2", applicant's use of this is simply an averaging function used to calculate a brightness level).

Therefore, it would have been obvious to one of ordinary skill in the art to modify the Dotsubo device to include a low pass filter process wherein the original pixel to be processed and the adjacent (N-1) original pixels thereof are each multiplied by a

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predetermined coefficient and summed up, wherein said "N" is a natural number more than "3", wherein the brightness level of each pixel of said information image is calculated in said low-pass-filter process, and the brightness level after the low pass filter process is obtained using $D = k1 \bullet d(i) + k2 \bullet d(i+1) + k3 \bullet d(i+2) + k4 \bullet d(i-1) + k5 \bullet d(i-2)$, wherein $k1$ to $k5$ are "0.2" and the brightness level of a target pixel is represented by $d(i)$ and the brightness levels of the adjacent four pixels are respectively represented by $d(i+1)$, $d(i+2)$, $d(i-1)$, $d(i-2)$ as taught by Miyake in order to reduce high frequency components such as corners and thin lines (column 6, lines 30-44).

3. In regard to claim 3, note although Dotsubo does not directly disclose that N is greater than a maximum thinning number used in said thinning process, it is inherent that N is greater than the maximum thinning number (if N was smaller than the maximum thinning number, the information image would appear as dots, dotted lines or nothing at all after the thinning process).

4. In regard to claim 4, note Dotsubo discloses an imaging device that produces a thinned image as claimed in claim 1, as well as the use of a plurality of elements in the original image arranged at intervals so as to avoid affecting each other after the low-pass-filtering process (figure 6a: "CONGRATULATIONS!", each letter and symbol is considered to be an element; figure 6c: this is evidence that the elements are arranged at intervals so as to avoid affecting each other after the low-pass-filtering process).

Therefore, it can be seen that the primary reference of Dotsubo in view of Miyake lacks the use of a plurality of elements comprising a letter, a mark and a figure. However, Dotsubo does disclose the use of the elements separately (figures 5-6), and it would

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have been obvious to use them in the same image based on design choice (the image that is used as the original image to create the information image can be an image that includes anything, i.e. a letter, a mark, and/or a figure). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Dotsubo and Miyake to include the use of a plurality of elements comprising a letter, a mark and a figure based on design choice.

5. In regard to claim 6, note Miyake discloses that the low-pass-filter process is executed relative to a horizontal direction of said original image (column 6, lines 1-11 and column 6, lines 30-44; the use of a window for the low pass filter is arranged in any shape, which is interpreted as any size).

6. In regard to claim 7, note Miyake discloses that N is "5" containing the original pixel to be processed and two original pixels of each side thereof (column 6, lines 1-11 and column 6, lines 30-44 and figure 9A-9B; the use of a window for the low pass filter is arranged in any shape, which is interpreted as any size, including five horizontal pixels consisting of one target pixel in the center and four adjacent).

7. In regard to claim 8, note although Dotsubo does not directly disclose that the interval that corresponds to the original pixels is at least five, it is inherent that the interval be greater than or equal to "N" (after the low pass filter, if the interval were less than "N" the elements would overlap and become one element during thinning).

8. In regard to claim 9, note the primary reference of Dotsubo in view of Miyake discloses an imaging device that produces a thinned image as claimed in claim 1.

Therefore, it can be seen that the primary reference fail to disclose the use of data ROM

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as the storage means. The template image used on figure 5 is stored on a memory card 46 (column 6, lines 48-57). Official notice is taken that the concepts and advantages of using data ROM are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Dotsubo and Miyake to include the use of a data ROM to store the template image for permanent storage and to protect the image from being overwritten.

9. In regard to claim 10, note Dotsubo discloses that the information image read from said memory is composed with said subject image to be displayed on said liquid crystal display (figure 1: 34; figure 5; and column 2, lines 4-11; and column 14, lines 35-47, the composite image can be displayed).

10. In regard to claim 11, note the primary reference of Dotsubo in view of Miyake discloses an imaging device that produces a thinned image as claimed in claim 1. Therefore, it can be seen that the primary reference fails to disclose that the information image is displayed in the right-upper corner of said subject image. However, Dotsubo does disclose the use of different types of information images (figures 5-6), and it would be obvious to alter the locations of the images within the subject image based on design choice (the image that is used as the original image to create the information image can be an image that contains elements anywhere within the image, i.e. the right-upper corner). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Dotsubo and Miyake to include the use elements in any location based on design choice.

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11. In regard to claim 12, note the primary reference of Dotsubo in view of Miyake discloses an imaging device that produces a thinned image as claimed in claim 11. Therefore, it can be seen that the primary reference fails to disclose that the information image is displayed in a state that white letters are arranged in a black region. However, Dotsubo does disclose the use of different types of information images (figures 5-6), and it would have been obvious to change the colors of the image based on design choice (the image that is used as the original image to create the information image can be an image that contains elements of any color, including white letters are arranged in a black region). Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Dotsubo and Miyake to include the use of an information image that is displayed in a state that white letters are arranged in a black region based on design choice.

12. In regard to claim 13, note Dotsubo discloses that the apparatus is a digital camera (column 1, lines 30-35).

13. In regard to claim 14, note the primary reference of Dotsubo in view of Miyake discloses an imaging device that produces a thinned image as claimed in claim 13. Therefore, it can be seen that the primary reference fails to disclose that the liquid crystal display is provided on a rear face of said digital camera. Official notice is taken that the concepts and advantages of providing the LCD on the rear face of the camera are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the primary reference of Dotsubo and

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Miyake device to include the use of an LCD on the rear of the camera in order to allow the user to view the image while capturing.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


US006411745B1: note the use of linear interpolation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (571) 272-7323. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ngoc-Yen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CSY
December 1, 2005


NGOC-YEN VU
PRIMARY EXAMINER